

In the Claims

Please amend the claims as set forth below. This listing of claims will replace all prior versions and listings of claims in the Application:

1-14. (cancelled)

15. (currently amended) A method for selecting a reduced-cost nickel-base superalloy, the method comprising the steps of

providing a gas turbine engine component of identifying—a baseline nickel-base superalloy having a first nominal composition, in weight percent, comprising

a baseline tantalum content of more than about 5 weight percent tantalum, and

a baseline sum consisting of a baseline hafnium content plus a baseline columbium content plus a baseline titanium content plus a baseline tungsten content, in weight percent; ~~and~~

selecting a modified nickel-base superalloy for substituting in place of the baseline nickel-base superalloy and having a second nominal composition, in weight percent, comprising

a modified tantalum content at least 1.5 weight percent less than the baseline tantalum content, and

a modified baseline sum consisting of a modified hafnium content plus a modified columbium content plus a modified titanium content plus a modified tungsten content having a weight percent greater than the baseline sum in an amount equal to or greater than the difference in weight percent between the baseline tantalum content and the modified tantalum content; ~~and~~

substituting the baseline nickel-base superalloy with the second nominal composition of the modified nickel-base superalloy.

16. (original) The method of claim 15, wherein the step of selecting includes the step of selecting an absolute value of (the modified baseline sum minus the baseline sum) to be at least as great as the absolute value of (the modified tantalum content minus the baseline tantalum content).

17. (original) The method of claim 15, wherein the step of selecting includes the step of selecting the modified nickel-base superalloy to have a nonzero modified hafnium content, a nonzero modified columbium content, a nonzero modified titanium content, and a nonzero modified tungsten content.

18. (original) The method of claim 15, wherein the sum of the modified tungsten content plus a modified molybdenum content in the modified nickel-base superalloy is at least about 6.5 weight percent.

19. (previously amended) A method for selecting a reduced-cost nickel-base superalloy, the method comprising the steps of

~~providing a gas turbine engine component of identifying~~—a baseline nickel-base superalloy having a first nominal composition, in weight percent, comprising

a baseline tantalum content of more than about 5 weight percent tantalum, and

a baseline sum consisting of a baseline hafnium content plus a baseline columbium content plus a baseline titanium content plus a baseline tungsten content, in weight percent; ~~and~~

selecting a modified nickel-base superalloy for substituting in place of the baseline nickel-base superalloy and having a second nominal composition, in weight percent, comprising
a modified tantalum content at least 1.5 weight percent less than the baseline tantalum content, and

a modified baseline sum consisting of a modified hafnium content plus a modified columbium content plus a modified titanium content plus a modified tungsten content at least 1.5 weight percent greater than the baseline sum; ~~and~~

substituting the baseline nickel-base superalloy with the second nominal composition of the modified nickel-base superalloy.

wherein an absolute value of (the modified baseline sum minus the baseline sum) is at least as great as the absolute value of (the modified tantalum content minus the baseline tantalum content),

wherein the modified nickel-base superalloy has a nonzero modified hafnium content, a nonzero modified columbium content, a nonzero modified titanium content, and a nonzero modified tungsten content, and

wherein the sum of the modified tungsten content plus a modified molybdenum content in the modified nickel-base superalloy is at least about 6.5 weight percent.

20.-23. (cancelled)

24. (previously presented) The method of claim 15, wherein the modified nickel-base superalloy is selected to have in the range of 3.0 percent to 4.5 percent by weight tantalum.

25. (previously presented) A method for selecting a reduced-cost nickel-base superalloy, the method comprising the steps of

providing an article of identifying—a baseline nickel-base superalloy having a first nominal composition, in weight percent, comprising

a baseline tantalum content of more than about 5 weight percent tantalum, and

a baseline sum consisting of a baseline hafnium content plus a baseline columbium content plus a baseline titanium content plus a baseline tungsten content, in weight percent;

identifying a modified nickel-base superalloy having a second nominal composition, in weight percent, comprising

a modified tantalum content of about 3.1 to about 3.5 weight percent tantalum, and

a modified baseline sum consisting of a modified hafnium content plus a modified columbium content plus a modified titanium content plus a modified tungsten content having a weight percent greater than the baseline sum in an amount equal to or greater than the difference in weight percent between the baseline tantalum content and the modified tantalum content; and substituting the modified nickel-base superalloy for the baseline nickel-base superalloy.